Oded Stark, C. Simon Fan

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# Contents

Acknowledgements

Abstract  
Kurzfassung  
1 Introduction  
2 Analysis  
3 Conclusion  
References  

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgements</td>
<td>1</td>
</tr>
<tr>
<td>Abstract</td>
<td>2</td>
</tr>
<tr>
<td>Kurzfassung</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>Analysis</td>
<td>10</td>
</tr>
<tr>
<td>Conclusion</td>
<td>11</td>
</tr>
<tr>
<td>References</td>
<td></td>
</tr>
</tbody>
</table>
Acknowledgements

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Abstract

Quite often, migrants appear to exert little effort to absorb the mainstream culture and to learn the language of their host society, even though the economic returns (increased productivity and enhanced earnings) to assimilation are high. We show that when interpersonal comparisons affect individuals’ wellbeing and when a more intensive assimilation results in migrants’ comparing themselves more with the richer natives and less with fellow migrants, then the effort extended to assimilate will be muted.
Migranten scheinen recht häufig nur geringe Anstrengungen zu unternehmen, die Kultur und die Sprache ihres Gastlandes anzunehmen bzw. zu erlernen, obwohl die ökonomischen Gewinne der Assimilation (gesteigerte Produktivität und höhere Einkommen) hoch sind. Wir zeigen, dass die erhöhte Anstrengung sich assimilieren, dadurch gedämpft wird, dass Migranten es im Hinblick auf zwischenmenschliche Vergleiche, die das Wohlergehen von Individuen beeinflussen, vorziehen, sich stärker mit den anderen Migranten und weniger mit den wohlhabeneren Einheimischen zu vergleichen.
A Reluctance to Assimilate

1 Introduction

Common culture and common language facilitate communication and interaction between individuals. Consequently, migrants’ assimilation into the mainstream culture of their host country is likely to increase their productivity and earnings. There is considerable empirical research on the relationship between migrants’ assimilation and their earnings, and this literature often finds that migrants exert little effort to absorb the mainstream culture and language, even though the economic returns to assimilation are high.\(^1\) For example, Lazear (1999, p. S96) concludes: “Multiculturalism …. seems to be on the rise in the United States….. In 1900, 85 percent of immigrants were fluent in English. Surprisingly, in 1990 the fluency rate among immigrants was only 68 percent, despite dramatic improvements in communication during the century.” This is puzzling. In a recent compilation (Friedman and Randeria, 2004) the failure of migrants to integrate, conform, and assimilate is portrayed quite extensively. The contributors to the compilation express concern and explore possible means of transforming migrants into “ethnics” and “nationals.” However, the proposed policies do not allow that migrants could optimally elect not to assimilate.

In the received literature, rigorous theoretical analyses of assimilation are rare, which contrasts with the related empirical literature.\(^2\) A notable exception is Lazear, who argues that assimilation may not occur when the migrants’ own community is large and when it is costly for them to learn the host country’s culture and language. In this paper we present a new model of assimilation that draws on the literature of relative deprivation and interpersonal comparisons.

Our model assumes that, to an extent, the reference groups of an individual are chosen endogenously.\(^3\) This assumption is in line with the recent literature that explores the social and psychological repercussions of individual behavior, cf. Akerlof’s (1997) concept of “social distance,” Agarwal and Vercelli (2005), Austen-Smith and Fuyer (2005) and the research reviewed therein. For example, Akerlof (p. 1010) writes: “I shall let individuals occupy different locations in social space. Social interaction … will increase with proximity in this space. Current social location is acquired and dependent on the [individual’s] decision … .” Drawing on this literature, we posit that the more effort a migrant exerts in assimilating into the mainstream culture, the closer he will be in social space to the natives and the farther away he will be from

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\(^1\) See, for example, Borjas (1995), Chiswick (2005), and Cutler, Glaser, and Vigdor (2005). Borjas, Bronars, and Trejo (1992) provide estimates of the average hourly earnings of young international migrants in the United States. Looking at a cross-section of individuals between the ages of 21 and 29 from the 1980 U.S. Census, they find sizable returns to speaking English.

\(^2\) While occasionally the substantial empirical studies point to interesting theoretical arguments and explanations (cf. Chiswick, 2005), these arguments and explanations are mostly not formalized rigorously.

\(^3\) To the best of our knowledge, the current paper provides a rare model of the endogenous formation of reference groups. Hence, the paper adds to the literature on relative deprivation.
his fellow migrants. We show that when interpersonal comparisons affect individuals’ wellbeing and when a more intensive assimilation results in migrants’ comparing themselves more with the richer natives and less with their fellow migrants, then the effort extended to assimilate is muted. Regarding the empirical content of our model we predict, inter alia, that the larger the income gap between the natives and the migrants, the weaker the effort to assimilate.
2 Analysis

Consider a set of migrants who originate from a poor country and who are in a rich country. To focus on essentials, we assume that in all relevant respects the migrants are identical. Each migrant decides how much effort to exert in order to assimilate himself into the mainstream culture of the host country. If a migrant is better assimilated into the mainstream culture, he will earn a higher income. However, upon assimilating more, he will become closer to the (rich) natives when making interpersonal comparisons. Formally, let a migrant’s utility function be

\[ u = Y(x) - RD - C(x) \]  

where “\( Y \)” denotes the migrant’s income, “\( RD \)” denotes the relative deprivation of the migrant which arises from interpersonal comparisons, “\( x \)” denotes the migrant’s effort to assimilate, and “\( C \)” is the cost of extending this effort. We assume that \( \lim_{x \to 0} Y'(x) = \infty \), namely that the Inada condition holds, thereby ensuring that in the analysis that follows the solutions of \( x \) are interior.

The relative deprivation of an individual is defined as follows

\[ F(I, R) \]

\[ \frac{\partial F}{\partial I} < 0, \quad \frac{\partial F}{\partial R} > 0 \]  

where “\( I \)” is the individual’s own income, and “\( R \)” is the average income of his reference group. We assume that a migrant’s set of reference groups consists of the natives and of his fellow migrants. The average income of the natives is denoted by “\( Z \)” and is assumed to be higher than the migrant’s earnings no matter how hard the migrant tries to assimilate into the mainstream

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4 However, even if there is some heterogeneity within the group of migrants, the results that follow will go through. What is critical for our argument is the persistent prevalence of an earnings gap between the natives and the migrants, not the homogeneity of the group of migrants.

5 We can also interpret \( Y \) more generally to encompass the utility from "consuming" the mainstream culture of the host country.

6 The idea that relative income impinges on welfare dates back at least to Veblen (1924). For pioneering and recent writings on the analytics of relative deprivation see, respectively, Yitzhaki (1979), and Walker and Smith (2002). For writings on relative deprivation and migration see Stark (1993), and Stark and Wang (2005). For recent empirical studies that demonstrate the importance of relative deprivation see, for example, Eibner and Evans (2005) and Luttmer (2005).
culture; the average income of the other migrants is denoted by \( Y \) which, in turn, is determined by other migrants’ average effort to assimilate into the mainstream culture, \( \bar{x} \).

We assume that the more a migrant assimilates into the mainstream culture, the more he will compare himself with the natives and the less he will compare himself with his fellow migrants. The relative weight of his being affiliated with the natives and thereby comparing himself with them is \( p \) \((0 \leq p \leq 1)\), and the corresponding weight pertaining to the migrant’s fellow migrants is \( 1-p \). Formally, we define

\[
p \equiv p(x) \\
p'(x) > 0
\] (3)

Then, we can express the migrant’s relative deprivation, “\( RD \)”, as a weighted sum

\[ RD = p(x)F[Y(x), Z] + [1 - p(x)]F[Y(x), \bar{Y}] \] (4)

Inserting (4) into (1), we get

\[ u = Y(x) - p(x)F[Y(x), Z] - [1 - p(x)]F[Y(x), \bar{Y}] - C(x) \] (5)

Note that a standard utility formulation captures the tension between the unpleasant exertion of effort aimed at acquiring productive “tools,” and the consequent pleasing derivation of income (the last and first terms on the right hand-side of (5), respectively). The added RD terms (the middle terms on the right hand-side of (5)) introduce an additional dimension of tension: the effort to acquire productive “tools” results in a reduction in the displeasure that arises from a relatively low income within both reference groups, yet it increases the weight that is accorded to the natives as a reference group within which comparisons result in substantial discontent.\(^7\), \(^8\)

In writing \( p \) as \( p(x) \), we are making two important assumptions: first, that the set of reference groups is determined endogenously (by \( x \)) and that it is not predetermined on the basis of ethnicity, origin, and so on. And second, that the exertion of the assimilation effort and the proximity to the natives are intertwined. Hence, for example, it is not possible to choose to exert a high level of assimilation effort while at the same time to exclude the natives as a reference group.

\(^7\) Recall the assumption that even if a migrant tries very hard to assimilate into the mainstream culture, he will still earn an income that is lower than that of the natives.

\(^8\) For simplicity’s sake, we assume away possible repercussions of the selection of the assimilation effort by the migrants upon the relative deprivation of the natives. However, even if such repercussions were to be considered then, if the relative deprivation of the natives is defined in a manner akin to that of the migrants, and if the income gap between the natives and the migrants remains large - the assimilation effort of the migrants notwithstanding - the relative deprivation of the natives will not be affected by the migrants’ choice of the assimilation effort.
A Reluctance to Assimilate

The migrant’s optimization problem is to choose \( x \) such as to bring his utility in (5) to a maximum (given his belief about the value of \( \bar{\bar{Y}} \) and hence about the value of \( \bar{Y} \)). The first-order condition for a maximum of (5) is

\[
Y'(x) - p'(x)F[Y(x),Z] - p(x)Y'(x)F[Y(x),Z]
+ p'(x)F[Y(x),\bar{Y}] - [1 - p(x)]Y'(x)F[Y(x),\bar{Y}] - C'(x) = 0
\]  

(6)

Since all migrants are identical, in equilibrium we must have that \( x = \bar{x} \) and hence

\[ Y(x) = \bar{Y} \]  

(7)

Naturally, we assume that

\[ F[Y(x), Y(x)] = 0 \]  

(8)

When migrants are identical and each migrant extends the same level of effort as any other migrant, then there is no difference in incomes within the group of migrants and hence no relative deprivation arises from intra-group comparisons.

Inserting (7) and (8) into (6), we get

\[
Y'(x) - p'(x)F[Y(x),Z] - p(x)Y'(x)F[Y(x),Z]
- [1 - p(x)]Y'(x)F[Y(x),Y(x)] - C'(x) = 0
\]  

(9)

Clearly, if the solution to (9) is unique, then there exists a unique Nash equilibrium for the level of effort that a migrant exerts in assimilating into the mainstream culture. If the solution to (9) is not unique, then there exist multiple Nash equilibria.

The analysis yields an interesting implication. Suppose that the solution to (9) is not unique, so that there exist multiple Nash equilibria. Then, for two similar (in all relevant respects) groups of migrants in a host country with a given mainstream culture, members of one group may exert more effort to assimilate to the mainstream culture than members of the other group.

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\[ A \text{ sufficient condition for the existence of a unique Nash equilibrium is that the derivative of the left hand-side of (9) with respect to } x \text{ is negative.} \]
Had interpersonal comparisons not been considered - a special case of (1) - the migrant’s utility function would have become

$$u = Y(x) - C(x)$$

(10)

The first-order condition for a maximum of (10) is

$$Y'(x) - C'(x) = 0$$

(11)

We denote the solution to (11) by $$x_1^*$$. We now denote the (largest) solution to (9) by $$x_2^*$$. Then, from comparing (11) with (9), we derive the following proposition which provides a condition under which the concern for interpersonal comparisons mutes the optimal assimilation effort.

**Proposition 1:** $$x_2^* < x_1^*$$ if

$$p'(x_2^*)F[Y(x_2^*), Z] + p(x_2^*)Y'(x_2^*)F_1[Y(x_2^*), Z] + [1 - p(x_2^*)]Y'(x_2^*)F_1[Y(x_2^*), Y(x_2^*)] > 0$$

(12)

**Proof.** We prove the claim by contradiction. Suppose otherwise, namely that $$x_2^* \geq x_1^*$$. From (11) we have

$$Y'(x_1^*) - C'(x_1^*) = 0$$

(13)

Since $$Y''(x) - C''(x) < 0$$ then from (13) and $$x_2^* \geq x_1^*$$ we have

$$Y'(x_2^*) - C'(x_2^*) \leq 0$$

(14)

Thus, we have that

$$Y'(x_2^*) - p'(x_2^*)F[Y(x_2^*), Z] - p(x_2^*)Y'(x_2^*)F_1[Y(x_2^*), Z] - [1 - p(x_2^*)]Y'(x_2^*)F_1[Y(x_2^*), Y(x_2^*)] - C'(x_2^*)$$

$$= [Y'(x_2^*) - C'(x_2^*)] - \{p'(x_2^*)F[Y(x_2^*), Z] + p(x_2^*)Y'(x_2^*)F_1[Y(x_2^*), Z]$$

$$+ [1 - p(x_2^*)]Y'(x_2^*)F_1[Y(x_2^*), Y(x_2^*)]\}$$

$$< 0$$

which contradicts (9). Thus, we have proved the proposition. \(\blacksquare\)
We can rewrite (12) as

\[ p'(x^*_2)F[Y(x^*_2), Z] > -(p(x^*_2)F[Y(x^*_2), Z] + [1 - p(x^*_2)]F[Y(x^*_2), Y(x^*_2)])Y'(x^*_2) \]  

(16)

Clearly, the larger \( p'(x^*_2) \) and \( F[Y(x^*_2), Z] \), the smaller the absolute values of \( F[Y(x^*_2), Z] \) and \( F[Y(x^*_2), Y(x^*_2)] \), and the smaller \( Y'(x^*_2) \), the more likely will inequality (16) (and hence inequality (12)) be satisfied.

Note that the left-hand side of (16) represents the marginal (dis)utility cost, due to an increase in \( x \), that arises from the sensing of relative deprivation upon a comparison with the natives, whereas the right-hand side of (16) represents the marginal utility benefit, due to an increase in \( x \), of increasing a migrant’s standing among other migrants and of narrowing the income gap between him and the natives. Thus, inequality (16) (and hence inequality (12)) is more likely to be satisfied if more intensive assimilation results in a relatively high cost - from a migrant’s comparing himself more with the richer natives - and a relatively low benefit - from his increasing his standing among fellow migrants. Hence, under the stated condition, the proposition implies that the choice of social proximity to reference groups and interpersonal comparisons entails migrants’ having a weak incentive to accumulate the skills that would enhance their productivity.

Our analysis yields interesting empirical implications. For example, it is observed that migrants’ segregation in the United States has increased since 1970, and it has been suggested that the increased segregation is due to greater racial dissimilarity with the American majority population (Cutler, Glaeser, and Vigdor, 2005). An explanation of the said segregation trend is that “Greater linguistic differences between immigrants’ native tongues and English has created a greater demand for enclave communities that offer opportunities to reduce communication costs” (Cutler, Glaeser, and Vigdor, 2005, p.29). But why is it that the linguistic differences were not narrowed by means of an assimilation effort (language acquisition)? Our analysis suggests that it is the rising income divide between the native population and the migrants that could account for the growing reluctance to assimilate and consequently for the increased segregation.

This analysis is also related to Akerlof and Kranton (2000), who inquire how identity, that is, a person’s sense of self, affects economic outcomes. In particular, they propose a utility function in which identity is associated with different social categories, and they proceed to analyze how people in these categories behave. The analysis in our paper examines how an important dimension of an individual’s identity can be determined endogenously: we investigate a key aspect of social interactions viz., interpersonal comparisons. Thus, our analysis complements the analysis of Akerlof and Kranton.
3 Conclusion

The pursuit of migration is an extreme example of the severing of ties with, or a distancing from, one’s friends and home. The “failure” of migrants to assimilate cannot plausibly be attributed merely to an urge to stay close to their friends, or they might not have migrated to begin with. Non-assimilation arises from a fear of enhanced relative deprivation if they reduce their distance from the natives as a reference group. Fundamentally, migration is a change of those with whom people associate. But it would be wrong to infer that a change of associates crowds out a change of behavior, given the associates. Through their actions, migrants can elect to associate more with some groups, less with others. However, when actions to keep in check the weight accorded to the rich natives as a reference group are not viable, the very choice of migration destination could be affected in an unexpected way: a country that is not so rich could be preferable to a country that is rich; migrants will protect themselves from an unfavorable comparison by not migrating to where the comparison, when unavoidable, would be highly unfavorable. Relatedly, the variance in the assimilation effort of migrants across host countries could arise from the variance in the income distance with the natives: the richer the natives, the weaker the effort to assimilate, other things held the same.

There is a fast growing literature documenting the importance of intra-group comparisons in the determination of happiness (cf. the selection in Bruni and Porta, 2005). Inter alia, the evidence suggests that very often people tend to be quite happy, except when they live in situations or settings in which they are brought, or made to compare themselves with a group that is much better off. The new literature is somewhat shy of analyzing the actions people can take in order to shield themselves from depressing exposure. We have sought to help fill this void.
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Externalities, Human Capital Formation and Corrective Migration Policy  
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<table>
<thead>
<tr>
<th>No.</th>
<th>Author(s)</th>
<th>Title</th>
<th>Publication Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Liu Junhai</td>
<td>Legal Reforms in China</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, August 1999, pp. 90.</td>
</tr>
<tr>
<td>17</td>
<td>Arnulf Heuermann</td>
<td>Die Bedeutung von Telekommunikationsdiensten für wirtschaftliches Wachstum</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, September 1999, pp. 33.</td>
</tr>
<tr>
<td>18</td>
<td>Ulrike Grote, Arnab Basu, Nancy Chau</td>
<td>The International Debate and Economic Consequences of Eco-Labeling</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, September 1999, pp. 37.</td>
</tr>
<tr>
<td>19</td>
<td>Manfred Zeller</td>
<td>Towards Enhancing the Role of Microfinance for Safety Nets of the Poor</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, October 1999, pp. 30.</td>
</tr>
<tr>
<td>22</td>
<td>Susanna Wolf, Dominik Spoden</td>
<td>Allocation of EU Aid towards ACP-Countries</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2000, pp. 59.</td>
</tr>
<tr>
<td>No.</td>
<td>Author(s)</td>
<td>Title</td>
<td>Publisher</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>24</td>
<td>Joachim von Braun, Ulrike Grote, Johannes Jütting</td>
<td>Zukunft der Entwicklungszusammenarbeit</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>25</td>
<td>Oded Stark, You Qiang Wang</td>
<td>A Theory of Migration as a Response to Relative Deprivation</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>26</td>
<td>Doris Wiesmann, Joachim von Braun, Torsten Feldbrügge</td>
<td>An International Nutrition Index – Successes and Failures in Addressing Hunger and Malnutrition</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>27</td>
<td>Maximo Torero</td>
<td>The Access and Welfare Impacts of Telecommunications Technology in Peru</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>28</td>
<td>Thomas Hartmann-Wendels, Lukas Menkhoff</td>
<td>Could Tighter Prudential Regulation Have Saved Thailand’s Banks?</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>29</td>
<td>Mahendra Dev</td>
<td>Economic Liberalisation and Employment in South Asia</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>30</td>
<td>Noha El-Mikawy, Amr Hashem, Maye Kassem, Ali El-Sawi, Abdel Hafez El-Sawy, Mohamed Showman</td>
<td>Institutional Reform of Economic Legislation in Egypt</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>31</td>
<td>Kakoli Roy, Susanne Ziemek</td>
<td>On the Economics of Volunteering</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>32</td>
<td>Assefa Admassie</td>
<td>The Incidence of Child Labour in Africa with Empirical Evidence from Rural Ethiopia</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>33</td>
<td>Jagdish C. Katyal, Paul L.G. Vlek</td>
<td>Desertification - Concept, Causes and Amelioration</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>No.</td>
<td>Author(s)</td>
<td>Title</td>
<td>Institute</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>34</td>
<td>Oded Stark</td>
<td>On a Variation in the Economic Performance of Migrants by their Home Country's Wage</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>35</td>
<td>Ramón Lopéz</td>
<td>Growth, Poverty and Asset Allocation: The Role of the State</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>36</td>
<td>Kazuki Taketoshi</td>
<td>Environmental Pollution and Policies in China’s Township and Village Industrial Enterprises</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>38</td>
<td>Claudia Ringler</td>
<td>Optimal Water Allocation in the Mekong River Basin</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>39</td>
<td>Ulrike Grote, Stefanie Kirchhoff</td>
<td>Environmental and Food Safety Standards in the Context of Trade Liberalization: Issues and Options</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>40</td>
<td>Renate Schubert, Simon Dietz</td>
<td>Environmental Kuznets Curve, Biodiversity and Sustainability</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>41</td>
<td>Stefanie Kirchhoff, Ana Maria Ibañez</td>
<td>Displacement due to Violence in Colombia: Determinants and Consequences at the Household Level</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>42</td>
<td>Francis Matambalya, Susanna Wolf</td>
<td>The Role of ICT for the Performance of SMEs in East Africa - Empirical Evidence from Kenya and Tanzania</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>43</td>
<td>Oded Stark, Ita Falk</td>
<td>Dynasties and Destiny: On the Roles of Altruism and Impatience in the Evolution of Consumption and Bequests</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>44</td>
<td>Assefa Admassie</td>
<td>Allocation of Children’s Time Endowment between Schooling and Work in Rural Ethiopia</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn,</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>No. 46</td>
<td>Torsten Feldbrügge, Joachim von Braun</td>
<td>Is the World Becoming A More Risky Place? - Trends in Disasters and Vulnerability to Them –</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, May 2002, pp. 42</td>
</tr>
<tr>
<td>No. 47</td>
<td>Joachim von Braun, Peter Wobst, Ulrike Grote</td>
<td>“Development Box” and Special and Differential Treatment for Food Security of Developing Countries: Potentials, Limitations and Implementation Issues</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, May 2002, pp. 28</td>
</tr>
<tr>
<td>No. 49</td>
<td>L. Adele Jinadu</td>
<td>Ethnic Conflict &amp; Federalism in Nigeria</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, September 2002, pp. 45</td>
</tr>
<tr>
<td>No. 50</td>
<td>Oded Stark, Yong Wang</td>
<td>Overlapping</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, August 2002, pp. 17</td>
</tr>
<tr>
<td>No. 51</td>
<td>Roukayatou Zimmermann, Matin Qaim</td>
<td>Projecting the Benefits of Golden Rice in the Philippines</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, September 2002, pp. 33</td>
</tr>
<tr>
<td>No. 52</td>
<td>Gautam Hazarika, Arjun S. Bedi</td>
<td>Schooling Costs and Child Labour in Rural Pakistan</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, October 2002, pp. 34</td>
</tr>
<tr>
<td>No. 53</td>
<td>Margit Bussmann, Indra de Soysa, John R. Oneal</td>
<td>The Effect of Foreign Investment on Economic Development and Income Inequality</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, October 2002, pp. 35</td>
</tr>
<tr>
<td>No. 54</td>
<td>Maximo Torero, Shyamal K. Chowdhury, Virgilio Galdo</td>
<td>Willingness to Pay for the Rural Telephone Service in Bangladesh and Peru</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, October 2002, pp. 39</td>
</tr>
<tr>
<td>No. 55</td>
<td>Hans-Dieter Evers, Thomas Menkhoff</td>
<td>Selling Expert Knowledge: The Role of Consultants in Singapore’s New Economy</td>
<td>Zentrum für Entwicklungsforschung (ZEF), Bonn, October 2002, pp. 29</td>
</tr>
</tbody>
</table>
| No. 56 | Qiuxia Zhu  
Stefanie Elbern | Economic Institutional Evolution and Further Needs for Adjustments: Township Village Enterprises in China  
Zentrum für Entwicklungsforschung (ZEF), Bonn, November 2002, pp. 41 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, December 2002, pp. 29 |
| No. 58 | Heidi Wittmer  
Thomas Berger | Clean Development Mechanism: Neue Potenziale für regenerative Energien? Möglichkeiten und Grenzen einer verstärkten Nutzung von Bioenergieträgern in Entwicklungsländern  
Zentrum für Entwicklungsforschung (ZEF), Bonn, December 2002, pp. 81 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2003, pp. 13 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, February 2003, pp. 24 |
| No. 61 | Andreas Wimmer  
Indra de Soysa  
Christian Wagner | Political Science Tools for Assessing Feasibility and Sustainability of Reforms  
Zentrum für Entwicklungsforschung (ZEF), Bonn, February 2003, pp. 34 |
| No. 62 | Peter Wehrheim  
Doris Wiesmann | Food Security in Transition Countries: Conceptual Issues and Cross-Country Analyses  
Zentrum für Entwicklungsforschung (ZEF), Bonn, February 2003, pp. 45 |
| No. 63 | Rajeev Ahuja  
Johannes Jütting | Design of Incentives in Community Based Health Insurance Schemes  
Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2003, pp. 27 |
| No. 64 | Sudip Mitra  
Reiner Wassmann  
Paul L.G. Vlek | Global Inventory of Wetlands and their Role in the Carbon Cycle  
Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2003, pp. 44 |
| No. 65 | Simon Reich | Power, Institutions and Moral Entrepreneurs  
Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2003, pp. 46 |
| No. 66 | Lukas Menkhoff  
Chodechai Suwanaporn | The Rationale of Bank Lending in Pre-Crisis Thailand  
Zentrum für Entwicklungsforschung (ZEF), Bonn, April 2003, pp. 37 |
<table>
<thead>
<tr>
<th>No.</th>
<th>Author(s)</th>
<th>Title</th>
<th>Zentrum für Entwicklungsforschung (ZEF), Bonn, Date, Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>Gerd R. Rücker, Soojin Park, Henry Ssali, John Pender</td>
<td>Strategic Targeting of Development Policies to a Complex Region: A GIS-Based Stratification Applied to Uganda</td>
<td>May 2003, pp. 41</td>
</tr>
<tr>
<td>70</td>
<td>Susanna Wolf</td>
<td>Private Sector Development and Competitiveness in Ghana</td>
<td>May 2003, pp. 29</td>
</tr>
<tr>
<td>71</td>
<td>Oded Stark</td>
<td>Rethinking the Brain Drain</td>
<td>June 2003, pp. 17</td>
</tr>
<tr>
<td>72</td>
<td>Andreas Wimmer</td>
<td>Democracy and Ethno-Religious Conflict in Iraq</td>
<td>June 2003, pp. 17</td>
</tr>
<tr>
<td>73</td>
<td>Oded Stark</td>
<td>Tales of Migration without Wage Differentials: Individual, Family, and Community Contexts</td>
<td>September 2003, pp. 15</td>
</tr>
<tr>
<td>74</td>
<td>Holger Seebens, Peter Wobst</td>
<td>The Impact of Increased School Enrollment on Economic Growth in Tanzania</td>
<td>October 2003, pp. 25</td>
</tr>
<tr>
<td>76</td>
<td>Wolfgang Werner</td>
<td>Toasted Forests – Evergreen Rain Forests of Tropical Asia under Drought Stress</td>
<td>December 2003, pp. 46</td>
</tr>
<tr>
<td>77</td>
<td>Appukuttannair, Damodaran, Stefanie Engel</td>
<td>Joint Forest Management in India: Assessment of Performance and Evaluation of Impacts</td>
<td>October 2003, pp. 44</td>
</tr>
</tbody>
</table>
Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 62 |
|---|---|---|
| No. 79 | Richard Pomfret | Resource Abundance, Governance and Economic Performance in Turkmenistan and Uzbekistan  
Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 20 |
| No. 80 | Anil Markandya | Gains of Regional Cooperation: Environmental Problems and Solutions  
Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 24 |
| No. 81 | Akram Esanov, Martin Raiser, Willem Buiter | Gains of Nature's Blessing or Nature's Curse: The Political Economy of Transition in Resource-Based Economies  
Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 22 |
| No. 82 | John M. Msuya, Johannes P. Jütting, Abay Asfaw | Impacts of Community Health Insurance Schemes on Health Care Provision in Rural Tanzania  
Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 26 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, January 2004, pp. 41 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, February 2004, pp. 8 |
Zentrum für Entwicklungsforschung (ZEF), Bonn, March 2004, pp. 33 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, May 2004, pp. 51 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, June 2004, pp. 29 |
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Zentrum für Entwicklungsforschung (ZEF), Bonn, July 2004, pp. 31 |
<table>
<thead>
<tr>
<th>No.</th>
<th>Authors</th>
<th>Title</th>
<th>Zentrum für Entwicklungsforschung (ZEF)</th>
<th>Publication Date</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>89</td>
<td>Donald Cox</td>
<td>On the Demand for Grandchildren: Tied Transfers and the Demonstration Effect</td>
<td>Bonn</td>
<td>September 2004</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Oded Stark</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Stefanie Engel</td>
<td>Exploiting Common Resources with Capital-Intensive Technologies: The Role of External Forces</td>
<td>Bonn</td>
<td>November 2004</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Ramón López</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td>Hartmut Ihne</td>
<td>Heuristic Considerations on the Typology of Groups and Minorities</td>
<td>Bonn</td>
<td>December 2004</td>
<td>24</td>
</tr>
<tr>
<td>92</td>
<td>Johannes Sauer</td>
<td>Black-Box Frontiers and Implications for Development Policy - Theoretical Considerations</td>
<td>Bonn</td>
<td>December 2004</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Klaus Frohberg</td>
<td></td>
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<td>Heinrich Hockmann</td>
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<td>Ulrike Grote</td>
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<td></td>
<td>You Qiang Wang</td>
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</tr>
<tr>
<td>95</td>
<td>Oded Stark</td>
<td>Status Aspirations, Wealth Inequality, and Economic Growth</td>
<td>Bonn</td>
<td>February 2005</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Peter Wobst</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>97</td>
<td>Ramon Lopez</td>
<td>Debt and Growth</td>
<td>Bonn</td>
<td>March 2005</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Edward B. Barbier</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>Hardwick Tchale</td>
<td>Impact of Alternative Soil Fertility Management Options on Maize Productivity in Malawi’s Smallholder Farming System</td>
<td>Bonn</td>
<td>August 2005</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Johannes Sauer</td>
<td></td>
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<td></td>
<td>Peter Wobst</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| No. 99 | Steve Boucher  
|        | Oded Stark  
|        | J. Edward Taylor | A Gain with a Drain? Evidence from Rural Mexico on the New Economics of the Brain Drain  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | October 2005, pp. 26 |
| No. 100 | Jumanne Abdallah  
|        | Johannes Sauer | Efficiency and Biodiversity - Empirical Evidence from Tanzania  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | November 2005, pp. 34 |
| No. 101 | Tobias Debiel | Dealing with Fragile States - Entry Points and Approaches for Development Cooperation  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | December 2005, pp. 38 |
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|        | Ulrike Grote  
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|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | February 2006, pp. 35 |
| No. 103 | Bhagirath Behera  
|        | Stefanie Engel | Who Forms Local Institutions? Levels of Household Participation in India's Joint Forest Management Program  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | February 2006, pp. 37 |
| No. 104 | Roukayatou Zimmermann  
|        | Faruk Ahmed | Rice Biotechnology and Its Potential to Combat Vitamin A Deficiency: A Case Study of Golden Rice in Bangladesh  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | March 2006, pp. 31 |
| No. 105 | Adama Konseiga | Household Migration Decisions as Survival Strategy: The Case of Burkina Faso  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | April 2006, pp. 36 |
| No. 106 | Ulrike Grote  
|        | Stefanie Engel  
|        | Benjamin Schraven | Migration due to the Tsunami in Sri Lanka – Analyzing Vulnerability and Migration at the Household Level  
|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | April 2006, pp. 37 |
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|        | Zentrum für Entwicklungsforschung (ZEF), Bonn  
|        | April 2006, pp. 42 |
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|        | Ulrike Grote | Impact of Labor Standards on Egyptian Exports with Special Emphasis on Child Labor  
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|        | April 2006, pp. 50 |
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